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10/538,659	05/03/2006	Kunihide Fujii	272751US6PCT	8928

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EXAMINER	
DIVECHA, NISHANT B	

ART UNIT	PAPER NUMBER
2466	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/538,659	FUJII ET AL.	
	Examiner	Art Unit	
	NISHANT B. DIVECHA	2466	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendments regarding claims 13-17 are pending and claims 1-12 have been cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 13-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13, 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 13, the claim recites "modulating an RF signal" and "modulating a received RF signal" at lines 3-4. The claim then recites in lines 5-7, demodulating "the RF signal load modulated." It is not understood which RF signal is being demodulated since RF signal was never load modulated. A received RF signal was load modulated which is different from an RF signal as currently recited in claim 13. Therefore, the claim is unclear and indefinite under 112, second paragraph. The claim also recites "demodulating a second RF signal" without reciting an essential step of modulating the second RF signal from another device. Similar problem exist with claims 16-17.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 17 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject mater.

Regarding claim 17, Applicant recites "A computer readable storage medium encoded with computer program instructions..." The specification does not specifically set apart the term to mean a tangible storage medium. Therefore, the term "computer readable storage medium" could reasonably be interpreted to encompass signals per se, i.e. signal storing the program instructions. Therefore, claim 17 is rejected as being directed to non-statutory subject matter because it is directed towards signal per se, and signal per se is defined to be non-statutory.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 13-14, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (Background of the specification, referred to AAPA) in view of Vega et al. (USP 6282407) and Kamerman et al. (USP 6067291) and Ikegami (USP 6393032).

Regarding claim 13, 16-17, AAPA discloses a communication device, comprising:

means for generating an RF (radio frequency) signal (see paragraph 0002, discloses transferring data using RF);

means for modulating the RF signal at one of a plurality of transfer rates (see paragraph 0003-0005, discloses Type A, B, C with different modulation scheme and different data rates) but fails to disclose modulating a received RF signal of another device by load modulation;

means for demodulating the RF signal load modulated by the another device, and for demodulating a second RF signal provided to the communication device from the another device.

However, Vega discloses modulating a received RF signal of another device by load modulation (see figure 4, discloses load modulation for passive component or tag);

means for demodulating the RF signal load modulated by the another device, and for demodulating a second RF signal provided to the communication device from the another device (see figure 2, 6a-6b, discloses demodulator for demodulating the corresponding received signal and further comprises a active transceiver for demodulating active signal); the active mode including the transmission of modulated data at the communication device and the another device, the passive mode providing load modulated communication from the another device to the communication device (see col. 6, lines 1-22, discloses passive mode modulation using load modulation technique due to low power and active since has power performing modulation).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate passive RFID tag disclosed by Vega to perform near end communications.

The motivation for doing so would be improve operation of the device in low power state.

AAPA and Vega fails to disclose means for detecting the second RF signal of the another device, the detecting being at a level of a first threshold or greater, wherein the means for generating is actuated upon an absence of the detecting to initiate an active or passive mode communication, and when the another device receives an indication of the active mode, the

means for detecting receives the data of the another device at a level of a second threshold or higher, the second threshold being higher than the first threshold.

However, Kamerman discloses when the another device receives an indication of the active mode, the means for detecting receives the data of the another device at a level of a second threshold or higher, the second threshold being higher than the first threshold (see figure 4, and col. 2, lines 55-58, a defer threshold, first threshold, is set where a network station will transmit signals when the carrier signal is not above this threshold and col. 2, lines 49-52, a carrier detect threshold (second threshold) is set higher than the defer threshold, where a network station will process signals only if the carrier signal is more than the carrier detect threshold).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify to include the teachings of Kamerman to detect the transmission and reception of active or passive mode communication since communication with active mode utilize higher power corresponding to second threshold and communicating with passive mode corresponding to lower threshold by communicating using lower power.

The motivation for doing so would be integrate the passive and active modes of communication such that passive can be used when running low on power and use active when distant to the receiver.

AAPA, Vega and Kamerman fails to disclose means for detecting the second RF signal of the another device, the detecting being at a level of a first threshold or greater, wherein the means for generating is actuated upon an absence of the detecting to initiate an active or passive mode communication.

Ikegami discloses means for detecting the second RF signal of the another device, the detecting being at a level of a first threshold or greater, wherein the means for generating is actuated upon an absence of the detecting to initiate an active or passive mode communication (see col. 2, lines 11-24, discloses a hidden node problem in a mixed rate environment, solving the problem by integrating the modems of both systems into one system and controlling the communication using one common control, therefore, using either low rate modem or higher rate modem, see col. 3, lines 27-53, therefore, sending control information, RTS and CTS through one modem and communicating data at higher rate through second modem. Therefore, the second RF signal, RTS detection, and data frames are generated upon determining that no other terminal is transmitting, thereby sending an RTS to signify to other terminals not to transmit and as a result generating data frames).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the same solution to solve the same problem of hidden node in a mixed data rate environment as disclosed by Ikegami.

The motivation for doing so would be create an integrated system for communicating at different data rates and provide solution for hidden node problem.

Regarding claim 14, AAPA fails to disclose the communication device further comprising means for setting the first and second threshold.

However, Kamerman discloses the communication device further comprising means for setting the first and second threshold (see col.4, lines 3-12, the parameter values stores, set, in the

memory provides a signal to defer threshold, first threshold circuit and carrier detect threshold, second threshold, to inform them of what the threshold setting are).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify to include the means for setting as disclosed by Kamerman to the teachings of AAPA.

The motivation for doing so would be dynamically change the setting to adapt to the environment.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Vega, Kamerman and Ikegami as applied to claim 13 above, and further in view of Zhou et al. (USP 6127979).

Regarding claim 15, AAPA fails to disclose a communication device wherein the RF signals are transmitted/received by a coil antenna.

However, Zhou teaches sending and receiving waves over a coil antenna (Zhou, Col. 2 Lines 1-2 and Lines 17-19, A coil antenna is used with a cellular radio telephone).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the wire antenna in the transceiver of Kamerman et al with the use of a coil antenna taught by Zhou et al because (Col. 3 Lines 66-67 and Col. 4 Lines 1-4) the use of a helical coil antenna allows the transmission and reception of signals in certain frequency bands while conserving space.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NISHANT B. DIVECHA whose telephone number is (571)270-3125. The examiner can normally be reached on Monday through Friday 1030 am to 6 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. B. D./
Examiner, Art Unit 2466

/Daniel J. Ryman/
Supervisory Patent Examiner, Art Unit 2466